

CASE REPORT

Chinese Scalp Acupuncture for Cerebral Palsy in a Child Diagnosed With Stroke in Utero

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A chapter of Dr Hao's book, *Chinese Scalp Acupuncture*, is available online exclusively at www.gahmj.com.

ABSTRACT

A 6-year-old patient with cerebral palsy was treated with Chinese scalp acupuncture. The Speech I, Speech II, Motor, Foot motor and sensory, and Balance areas were stimulated once a week, then every other week for 15 sessions. His dysarthria, ataxia, and weakness of legs, arms, and hands showed significant improvement from each scalp acupuncture treatment, and after 15 sessions, the patient had recovered completely. This case report demonstrates that Chinese scalp acupuncture can satisfactorily treat a child with cerebral palsy. More research and clinical trials are needed so that the potential of scalp acupuncture to treat cerebral palsy can be fully explored and utilized.

摘要

用中医头针疗法对一名6岁脑瘫患儿进行治疗。每周对语言I区, 语言II区, 运动区域, 足运动和感受区域以及平衡区域进行一次针灸, 之后隔周进行一次针灸, 共进行15次治疗。在每次头针治疗之后, 患者的构音困难、运动失调, 以及腿部、臂部和手部无力症状得到显著改善, 15次治疗之后, 患者完全康复。该病例证明, 中医头针疗法在治疗儿童脑瘫方面能够取得令人满意的效果。当前仍需要进一步的研究和临床试验, 对头针疗法在治疗脑瘫方面的潜在价值进行更充分的开发和利用。

RESUMEN

Se aplicó acupuntura china en el cuero cabelludo para tratar a un paciente de 6 años de edad que sufría de parálisis cerebral. Una vez a la semana se estimularon el Habla I, Habla II, la función motora, la función motora del pie y funciones sensoriales, y las áreas que regulan el equilibrio. Luego, se repitió el procedimiento cada dos semanas durante 15 sesiones. La disartria, ataxia y debilidad en las piernas, brazos y manos que padecía el paciente mostró una mejoría considerable luego de recibir este tipo de tratamiento con acupuntura. Transcurridas las 15 sesiones, el paciente se había recuperado por completo. El análisis de este caso demuestra que esta técnica de acupuntura china puede ser efectiva en el tratamiento de los niños que sufren parálisis cerebral. Se necesitarán realizar más investigaciones y ensayos clínicos para que los beneficios potenciales de la acupuntura en el cuero cabelludo, como técnica de tratamiento de la parálisis cerebral, sea plenamente analizada y aplicada.

Chinese scalp acupuncture is a contemporary acupuncture technique integrating traditional Chinese needling methods with Western medical knowledge of representative areas of the cerebral cortex (Figure 1). This modern system of acupuncture was first explored in the 1950s in China.¹ Over the next 20 years, acupuncture practitioners developed a theoretical model integrating brain functions with the principles of Chinese medicine. Dr Jiao Shunfa, a neurosurgeon in Shanxi province in China, is the recognized founder of Chinese scalp acupuncture.² He systematically undertook the scientific exploration and charting of scalp correspondences starting in 1971. Dr Jiao combined a modern understanding of neuroanatomy and neurophysiology with traditional techniques of Chinese acupuncture to develop a radical new tool for affecting the functions of the central nervous system.

Acupuncture and moxibustion have been used to prevent and treat disease in China for thousands of years.

Scalp acupuncture, however, is a modern technique with just 40 years of history. In the West, many healthcare practitioners are familiar with acupuncture for pain management. In contrast, scalp acupuncture is a new therapy to use as the primary tool for rehabilitation. It is still not easy for medical practitioners and the public to understand how scalp acupuncture may help in recovery from paralysis, aphasia, and ataxia, all conditions for which Western medicine has few effective treatments.

Scalp acupuncture frequently is used to rehabilitate paralysis due to stroke, multiple sclerosis, automobile accident, and Parkinson's disease. It is also often used in pain management, especially for pain caused by the central nervous system, such as phantom pain, complex regional pain, and residual limb pain.³ Scalp acupuncture has been used in the effective treatment of aphasia, loss of balance, loss of hearing, dizziness, and vertigo. The treatment is commonly given 2 to 3 times per week, and a basic therapeutic course consists of 10 treatments. Chinese

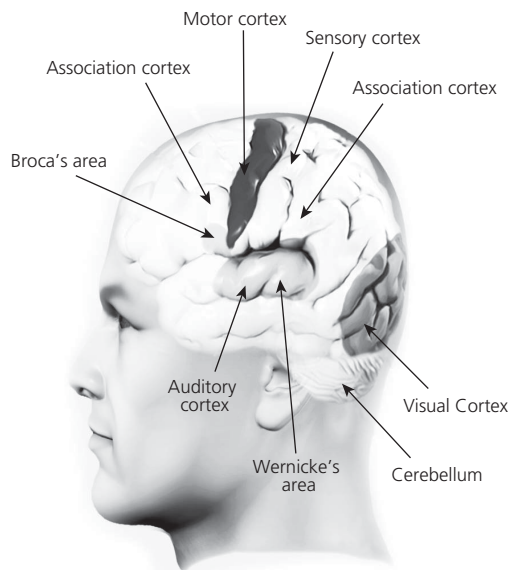


Figure 1 Cerebral cortex, side view.

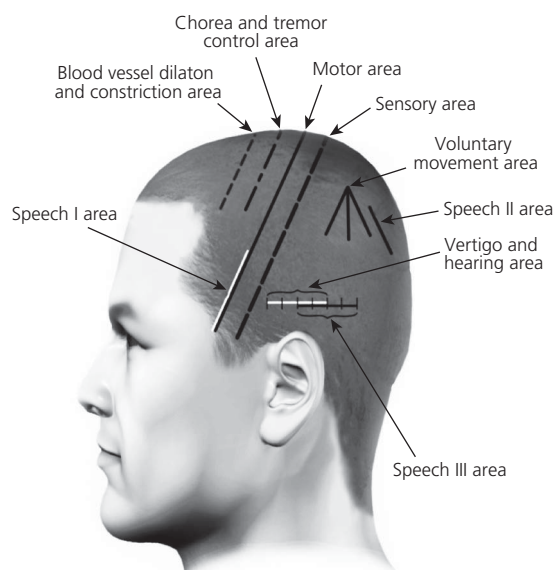


Figure 2 Stimulation areas, side view.

scalp acupuncture is helpful for children who are afraid of needles because the treatment requires few needles, they are not visible to the child, and the response is often rapid.

MEDICAL HISTORY AND PRESENTING CONDITION

Michael, a 6-year-old with cerebral palsy, came from Amarillo, Texas, with his parents to our clinic in Albuquerque, New Mexico, on March 10, 2011. His mother reported that he had never spoken an understandable English sentence and had almost no coordination in his upper or lower extremities. For example, his hands were so weak that he could not make an observable mark on paper with a pencil. He had become passive and initiated little or no communication. His low functional level had resulted in his being diagnosed with mental retardation and learned helplessness.

Multiple medical doctors, including neurologists and ear, nose, and throat specialists, evaluated Michael, and the diagnosis was stroke in utero. Michael had been receiving speech therapy and physical therapy for several years with no noticeable improvement and had been a passive participant in kindergarten for 2 years because of his inability to write, speak, or take part in physical activities.

The examination at our clinic showed no abnormal findings of his physical development or hearing. It was hard to understand him when he said his name, age, and birthday or when he counted aloud. His coordination was severely impacted. He could not point to his nose, touch his index fingers together, or kick his legs. His tongue was red with a thin white coating, and his pulses were wiry and slippery.

TREATMENT

Chinese scalp acupuncture and ear acupuncture were used to treat this patient. Primary scalp areas were Speech I and Speech III (Figure 2). The secondary scalp locations were Foot motor and sensory area, Motor area, and Balance

area (Figures 2-4). The needles were rotated at least 200 times per minute with thumb and index finger for several minutes.⁴ Foot motor and sensory area, Motor area, or Balance area was selected according to Michael's symptoms. The ear point "Shenmen" was selected for the first needle in order to help Michael relax and reduce his sensitivity to scalp acupuncture. The needles were kept in place for 15 to 30 minutes. Although Michael was afraid of needles before beginning the treatment, he was quiet and cooperative and did not cry while the needles were inserted. He did not notice that there was a needle inserted in his ear and showed no negative reaction at all. Next, 4 needles were put on the Speech I area and the Foot motor and sensory area of his scalp. The needles were stimulated slightly.

Outcome and Follow-up Treatments

Michael showed improvement in his speech during and at the end of his first treatment. It was easier to understand him when he said his name and age, and when he counted, most of the numbers were clearer after the treatment than they were before the treatment.

During the second session, Michael was not afraid. The new toy his mother showed him as the last needle was inserted diminished any tension he may have experienced. He tried very hard to make clear sounds in order to get the new toy. Michael attempted to repeat the words and sentences the doctor and his parents were saying and continued to say many clear words that could be understood. He seemed very happy when he found he was able to kick his legs and stand on one leg without difficulty.

Prior to the third session, his mother reported that Michael had started to talk in clearer sentences, some of which she could understand. She had found him already dressed when she went to wake him up to come to the acupuncture clinic. The fourth treatment was similar to the third, and 4 needles were inserted without any pain. During this treatment, Michael was able to speak like a

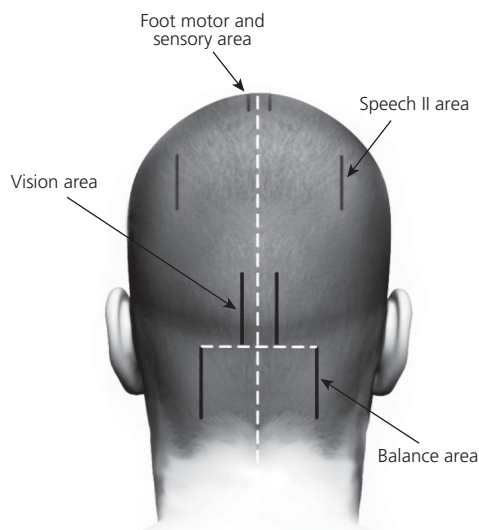


Figure 3 Stimulation areas, back view.

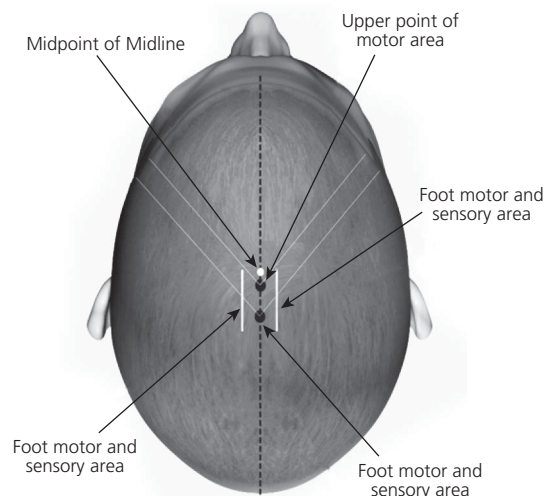


Figure 4 Stimulation areas, top view.

normal child, sing a song clearly, and laugh.

By the fifth session, his parents said he was more physically active and had less trouble speaking. His fear and anxiety both at school and at home had diminished. Michael was playing with other children and based on his teacher's report, had made some improvement in his schoolwork. Examination showed that he could speak more clearly and could write or paint like a normal child. His physical activities, such as jumping, kicking, running, and standing on one leg, showed no restriction at all. The redness of his tongue was now only on the tip. His treatments were extended to once every other week.

After the 10th session, Michael's speech and grades in school, as well as speech and physical activities at home, had significantly improved. He still had trouble saying some words, primarily those beginning with *s* or *r*. He improved so quickly that his treatments were extended from twice a month to once a month. After his 15th session, Michael had become a happy, communicative, and physically active boy who could say whatever he wanted, express his feelings with clear words, and move his body and limbs as he wished. He had no restriction of any of his mental and physical activities. His parents were happy to report that his math and reading scores had progressed by a grade level and he was moved to first grade. Our final examination at the clinic showed that his tongue was a little red with a thin white coating and his pulses were soft.

DISCUSSION

Chinese scalp acupuncture has been found to have good results in children with cerebral palsy including paralysis, ataxia, hypotonia or hypertonia, apraxia, dysarthria (trouble speaking), dysphasia, and mental retardation. With advanced brain research and imaging technology, scientists continue to understand better how the brain can adapt after damage and even regain its ability to function.⁵ It is now apparent that a child's

brain is not fully developed until about the age of 8 years and has the ability to reorganize, adapt, and reroute signals if it is stimulated properly.⁶ Brain cells not only can change in function and shape but also can take over the functions of nearby damaged cells.⁷ Based on these abilities, scalp acupuncture is geared toward stimulating and restoring affected brain tissue, as well as retraining unaffected brain tissue to compensate for the lost functions of damaged tissue.

Cerebral palsy may occur in children in utero, during childbirth, or after birth up to about the age of 3 years.⁸ The majority of children with cerebral palsy are born with it, although it may not be detected until months or years later. The brain damage often is caused by genetic abnormalities, stroke, maternal infections and fevers, or fetal injury. In this case, the patient appeared to have a stroke in utero.

The United Cerebral Palsy Foundation estimates that nearly 500 000 children and adults in the United States are living with one or more of the symptoms of cerebral palsy.⁹ According to the Centers for Disease Control and Prevention, about 10 000 babies born in the United States each year will develop cerebral palsy.¹⁰ Conventional Western medicine offers no cure for cerebral palsy, holding that the damage is not repairable and the disabilities that result are permanent.¹¹ The diagnosis of cerebral palsy has historically relied upon the patient's history and physical examination. Once a child is diagnosed with cerebral palsy, further diagnostic tests are optional. In Western medicine, treatment for cerebral palsy is a lifelong multidimensional process focused on overcoming developmental disabilities or learning new ways to accomplish challenging tasks.¹²

The incidence of dysarthria is estimated to range from 31% to 88%.¹³ To treat children with dysarthria, the needles are inserted bilaterally in Speech Areas I or III. The thinnest needles that can be inserted into the scalp should be selected. One needle should be inserted

on the “Shenmen” point on the ear to help young patients relax and to reduce sensitivity to needle insertion and stimulation of the scalp. The least number of needles possible should be used in the scalp in the initial treatment, and the needles should be rotated at least 200 times per minute with thumb and index finger for 1 minute. The needles should be twirled as gently as possible so that the child can tolerate the sensation, and the stimulation should be repeated every 10 minutes. The practitioner should select Foot motor and sensory area and Motor area or Balance areas accordingly to which symptoms and signs the child has.

Verbal communication with children and their parents during treatment helps to reduce their fear and anxiety. At the same time, it can be important to encourage a child with aphasia to talk, count, or sing in order to exercise the power of speech. During treatment, some patients may have some or all of the following sensations: hot, cold, tingling, numbness, heaviness, distension, and the sensation of water or electricity moving along their spine, legs, or arms.¹⁴ The practitioner should tell the parents and child that those sensations are normal and that patients who experience some or all of these sensations usually respond and improve more quickly. However, those who do not have such sensations could still have immediate positive results.

To treat motor dysfunction, the acupuncturist places the needles in Motor areas. Generally speaking, weakness of limbs or a paralyzed extremity is treated by choosing the opposite side of the Motor area on the scalp.¹⁵ For instance, for a patient with weakness in the right leg and foot, the left side of the Motor area on the scalp should be needled. The Upper one-fifth region is used to treat contralateral dysfunctional movement of the lower extremity, trunk, spinal cord, and neck. The Middle two-fifths region is used to treat contralateral dysfunctional movement of the upper extremity. The Lower two-fifths region is used to treat bilateral dysfunctional movement of the face and head.¹⁶

To treat patients with coordination and balance problems, the acupuncturist inserts and stimulates needles in the Balance area bilaterally. It is important to have patients move the affected limb actively as well as passively. Initially, the patient should be treated 2 to 3 times a week until major improvements are achieved. Then treatment is once weekly, then every 2 weeks, and then scheduled as indicated by the patient's condition. A therapeutic course consists of 10 treatments.

There are several different acupuncture techniques to treat weakness of limbs or paralysis. Although scalp acupuncture has the best and fastest response, other techniques are necessary for a fuller recovery. According to the individual's condition, regular body acupuncture, electric acupuncture, and moxibustion, as well as physical therapy and massage, can be combined with scalp acupuncture to speed recovery.

Electrical stimulation may be helpful if the practitioner has difficulty performing the rotation of the needles more than 200 times per minute. It is suggested that

only 1 to 2 pairs of the scalp needles be stimulated at any one session or the brain can become too confused to respond. Moxibustion can enhance the therapeutic results of scalp acupuncture, especially in weaker patients. The timeframe for patients with cerebral palsy to be treated by scalp acupuncture is crucial. Parents should have their child receive acupuncture treatment as soon as his or her condition is diagnosed. The earlier the child receives treatment, the better the prognosis will be.

Western medical science so far has not found a proven explanation for the success of Chinese scalp acupuncture in treating central nervous system disorders and specifically with treating cerebral palsy. There is a growing amount of clinical evidence that scalp acupuncture can improve or remove symptoms in patients with cerebral palsy. In China, there are many clinical and research studies showing the excellent results obtained from treating cerebral palsy with scalp acupuncture.¹⁷⁻¹⁹ Therefore, there is an urgent need for Chinese scalp acupuncture to be studied and perfected using modern Western science and technology. More case reports, case series, and clinical trials of Chinese scalp acupuncture in the treatment of cerebral palsy are needed so that its potential can be fully explored and utilized.

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